

PTO/SB/21 (09-04)

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**Total Number of Pages in This Submission**

Application Number	10/003,770
Filing Date	November 15, 2001
First Named Inventor	R. Dennis Nesbitt
Art Unit	3711
Examiner Name	R. Gordon
Attorney Docket Number	P-S915

**ENCLOSURES**      *(Check all that apply)*

<input checked="" type="checkbox"/> Fee Transmittal Form	<input type="checkbox"/> Drawing(s)	<input type="checkbox"/> After Allowance Communication to TC
<input type="checkbox"/> Fee Attached	<input type="checkbox"/> Licensing-related Papers	<input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences
<input type="checkbox"/> Amendment/Reply	<input type="checkbox"/> Petition	<input checked="" type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief)
<input type="checkbox"/> After Final	<input type="checkbox"/> Petition to Convert to a Provisional Application	<input type="checkbox"/> Proprietary Information
<input type="checkbox"/> Affidavits/declaration(s)	<input type="checkbox"/> Power of Attorney, Revocation	<input type="checkbox"/> Status Letter
<input type="checkbox"/> Extension of Time Request	<input type="checkbox"/> Change of Correspondence Address	<input type="checkbox"/> Other Enclosure(s) (please identify below):
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<input type="checkbox"/> Certified Copy of Priority Document(s)	<input type="checkbox"/> CD, Number of CD(s) _____	
<input type="checkbox"/> Reply to Missing Parts/Incomplete Application	<input type="checkbox"/> Landscape Table on CD	
<input type="checkbox"/> <input type="checkbox"/> Reply to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Remarks	

**SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT**

Firm Name	The Top-Flite Golf Company		
Signature			
Printed name	Michelle Bugbee		
Date	November 15, 2004	Reg. No.	42,370

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BIG DATE SHEET

Michelle George

**Typed or printed name**

Michelle Bugbee

Date | November 15, 2004

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NOV 15 2004

PTO/SB/17 (10-04v2)

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# FEE TRANSMITTAL for FY 2005

*Effective 10/01/2004. Patent fees are subject to annual revision.*

 Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$ 340.00)

## Complete if Known

Application Number	10/003,770
Filing Date	November 15, 2001
First Named Inventor	R. Dennis Nesbitt
Examiner Name	R. Gorden
Art Unit	3711
Attorney Docket No.	P-5915

## METHOD OF PAYMENT (check all that apply)

 Check  Credit card  Money Order  Other  None
 Deposit Account:

Deposit Account Number 17-0150

Deposit Account Name Top-Flite Golf Company

The Director is authorized to: (check all that apply)

 Charge fee(s) indicated below  Credit any overpayments  
 Charge any additional fee(s) or any underpayment of fee(s)  
 Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account.
 

## FEE CALCULATION

## 1. BASIC FILING FEE

Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description	Fee Paid
1001 790	2001 395	Utility filing fee	
1002 350	2002 175	Design filing fee	
1003 550	2003 275	Plant filing fee	
1004 790	2004 395	Reissue filing fee	
1005 160	2005 80	Provisional filing fee	
SUBTOTAL (1) (\$ 0)			

## 2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

Total Claims	Extra Claims	Fee from below	Fee Paid
Independent Claims	-20** =	X	=
Multiple Dependent	- 3** =	X	=

Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description
1202 18	2202 9	Claims in excess of 20
1201 88	2201 44	Independent claims in excess of 3
1203 300	2203 150	Multiple dependent claim, if not paid
1204 88	2204 44	** Reissue independent claims over original patent
1205 18	2205 9	** Reissue claims in excess of 20 and over original patent
SUBTOTAL (2) (\$ 0)		

\*\* or number previously paid, if greater. For Reissues, see above

## 3. ADDITIONAL FEES

Large Entity Small Entity

Fee Code (\$)	Fee Code (\$)	Fee Description	Fee Paid
1051 130	2051 65	Surcharge - late filing fee or oath	
1052 50	2052 25	Surcharge - late provisional filing fee or cover sheet	
1053 130	1053 130	Non-English specification	
1812 2,520	1812 2,520	For filing a request for ex parte reexamination	
1804 920*	1804 920*	Requesting publication of SIR prior to Examiner action	
1805 1,840*	1805 1,840*	Requesting publication of SIR after Examiner action	
1251 110	2251 55	Extension for reply within first month	
1252 430	2252 215	Extension for reply within second month	
1253 980	2253 490	Extension for reply within third month	
1254 1,530	2254 765	Extension for reply within fourth month	
1255 2,080	2255 1,040	Extension for reply within fifth month	
1401 340	2401 170	Notice of Appeal	
1402 340	2402 170	Filing a brief in support of an appeal	340.00
1403 300	2403 150	Request for oral hearing	
1451 1,510	1451 1,510	Petition to institute a public use proceeding	
1452 110	2452 55	Petition to revive - unavoidable	
1453 1,370	2453 665	Petition to revive - unintentional	
1501 1,370	2501 665	Utility issue fee (or reissue)	
1502 480	2502 245	Design issue fee	
1503 660	2503 330	Plant Issue fee	
1460 130	1460 130	Petitions to the Commissioner	
1807 50	1807 50	Processing fee under 37 CFR 1.17(q)	
1808 180	1808 180	Submission of Information Disclosure Stmt	
8021 40	8021 40	Recording each patent assignment per property (times number of properties)	
1809 780	2809 395	Filing a submission after final rejection (37 CFR 1.129(a))	
1810 780	2810 395	For each additional invention to be examined (37 CFR 1.129(b))	
1801 790	2801 395	Request for Continued Examination (RCE)	
1802 900	1802 900	Request for expedited examination of a design application	
Other fee (specify) _____			
-Reduced by Basic Filing Fee Paid		SUBTOTAL (3) (\$ 340.00)	

(Complete if applicable)

Name (Print/Type)	Michelle Bugbee	Registration No. (Attorney/Agent)	42,370	Telephone	413-322-2937
Signature	<i>Michelle Bugbee</i>			Date	November 15, 2004

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NOV 15 2004

P-5915 PATENT

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent application of R. Dennis Nesbitt

Serial No.: 10/003,770

Examiner: R. Gorden

Filing Date: November 15, 2001

Group Art Unit: 3711

For: GOLF BALL COMPRISING HIGHER COEFFICIENT OF RESTITUTION  
CORE AND METHOD OF MAKING SAME

Mail Stop AF  
Commissioner for Patents  
P. O. Box 1450  
Alexandria, VA 22313-1450

Sir:

APPEAL BRIEF UNDER 37 C.F.R. § 41.37

This Appeal Brief is in furtherance of the Notice of Appeal that was filed for the above-referenced application on October 1, 2004.

The fees required under § 1.17, and any required petition for extension of time for filing this brief and fees therefor, are dealt with in the accompanying Fee Transmittal.

Appellant files herewith an Appeal Brief in connection with the above-identified application, wherein claims 2 to 7, 9 to 14, 16 to 19 and 21 to 23 were finally rejected in the Office Action of September 20, 2004. What follows is Appellant's Appeal Brief in accordance with 37 C.F.R. § 41.37.

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CERTIFICATION UNDER 37 C.F.R. 1.8

I hereby certify that this Appeal Brief and the documents referred to as attached therein are being transmitted by facsimile on this date November 15, 2004, to TC3700 at 703-872-9306 addressed to: Mail Stop AF, Attention: Board of Patent Appeals and Interferences, Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450.

  
Michelle Bugbee

**I. REAL PARTY IN INTEREST (37 C.F.R. § 41.37(c)(1)(i))**

The real parties in interest in this appeal are the inventor named in the caption of this brief (R. Dennis Nesbitt) and the assignee, Callaway Golf Company.

**II. RELATED APPEALS AND INTERFERENCES (37 C.F.R. § 41.37(c)(1)(ii))**

Currently, it is believed that there are no other appeals or interferences in process or pending before the U.S. Patent and Trademark Office from which the present application bases its priority, or any case which bases its priority upon the present application, that will directly affect or be affected by or have a bearing on the Board's decision in this Appeal.

**III. STATUS OF CLAIMS (37 C.F.R. § 41.37(c)(1)(viii))**

The status of claims set forth after the Final Office Action mailed September 20, 2004 was, and is, as follows:

Allowed claims: none

Rejected claims: 2 to 7, 9 to 14, 16 to 19 and 21 to 23

Canceled claims: 1, 8, 15 and 20

The present appeal is directed to claims 2 to 7, 9 to 14, 16 to 19 and 21 to 23.

**IV. STATUS OF AMENDMENTS (37 C.F.R. § 41.37(c)(1)(iv))**

In the Final Office Action of September 20, 2004, claims 2 to 7, 9 to 14 and 16 to 19 were rejected under 35 U.S.C. § 103(a) as unpatentable over Hiraoka et al. (RE 35,293), and claims 21 to 23 were rejected under 35 U.S.C. § 103(a) as obvious over Hiraoka et al. (RE 35,293) in view of Cadorniga et al. (US 5,508,350).

There are no unentered amendments.

**V. SUMMARY OF CLAIMED SUBJECT MATTER (37 C.F.R. § 41.37(c)(1)(v))**

The present invention is directed to a golf ball comprising a solid core formed from a core composition including a polybutadiene rubber exhibiting a solution viscosity of from about 90 mPa•s to about 130 mPa•s, wherein said core exhibits a coefficient of restitution of at least about 0.780 (claim 2).

The present invention is also directed to a golf ball comprising a solid, molded core formed from a core composition including a polybutadiene rubber exhibiting a solution viscosity of from about 90 mPa•s to about 130 mPa•s, said core exhibiting a coefficient of restitution of at least about 0.783 (claim 10).

The present invention is also directed to a golf ball comprising a core formed from a composition including (i) from about 70% to about 50% of a first polybutadiene rubber exhibiting a solution viscosity of at least about 90 mPa•s, and (ii) from about 30% to about 50% of a second polybutadiene rubber (claim 23).

**VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL (37 C.F.R. § 41.37(c)(1)(vi))**

Whether claims 2 to 7, 9 to 14 and 16 to 19 are unpatentable under 35 U.S.C. § 103(a) over Hiraoka et al. (RE 35,293); and whether claims 21 to 23 are unpatentable under 35 U.S.C. § 103(a) over Hiraoka et al. (RE 35,293) in view of Cadorniga et al. (US 5,508,350).

**VII. ARGUMENTS (37 C.F.R. § 41.37(c)(1)(vii))**

**1. The Examiner's rejection of claims 2 to 7, 9 to 14 and 16 to 19 as unpatentable under 35 U.S.C. § 103(a) over Hiraoka et al. (RE 35,293) is erroneous and must be reversed.**

The Examiner has rejected claims 2 to 7, 9 to 14 and 16 to 19 as being unpatentable under 35 U.S.C. § 103(a) over Hiraoka et al. (RE 35,293). The basis for the Examiner's rejection is as follows:

Claims 2-7, 9-14, 16-18, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hiraoka et al. (Re 35,293).

Regarding claim 2, Hiraoka discloses a golf ball comprising a core made from a polybutadiene (A). Polybutadiene (A) may be commercially available BUNA CB 10 (col 1, lines 52-67).

According to applicant's spec page 11, table 3 BUNA CB 10 has a solution viscosity of  $140 \pm 20$  mPa•s. The COR value is an obvious feature since the polybutadiene is identical to applicant's. Regarding claim 3, applicant appears to be claiming a method of production that is not relevant to the final product. However, any properties based on the polybutadiene are obvious since applicant's is identical to Hiraoka. Regarding claim 4, Hiraoka discloses a Mooney viscosity range from 45 to 90 (col 1, line 59) and applicant discloses BUNA

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CB 10 has a Mooney viscosity of  $47 \pm 5$  (spec table 3). Regarding claim 5, the golf ball includes a cover (col 2, lines 58-61). Regarding claim 6, the polybutadiene has a 1-4 cis content of 80% or more (col 1, lines 53-55) and applicant discloses BUNA CB 10 has a 1-4 cis content of 96% or more (page 11, table 3). Regarding claim 7, the core composition includes a second polybutadiene (B)(col 2, lines 1-5). Regarding claim 9, the COR value is an obvious feature since the polybutadiene is identical to applicant's. Regarding claim 10, Hiraoka discloses a golf ball comprising a core made from a polybutadiene (A). Polybutadiene (A) may be commercially available BUNA CB 10 (col 1, lines 52-67). According to applicant's spec page 11, table 3 BUNA CB 10 has a solution viscosity of  $140 \pm 20$  mPa•s. The COR value is an obvious feature since the polybutadiene is identical to applicant's. Regarding claim 11, the polybutadiene has a 1-4 cis content of 80% or more (col 1, lines 53-55) and applicant discloses BUNA CB 10 has a 1-4 cis content of 96% or more (page 11, table 3). Regarding claim 12, applicant appears to be claiming a method of production that is not relevant to the final product. However, any properties based on the polybutadiene are obvious since applicant's is identical to Hiraoka. Regarding claim 13, the core composition includes a second polybutadiene (B)(col 2, lines 1-5). Regarding claim 14, Hiraoka discloses a Mooney viscosity range from 45 to 90 (col 1, line 59) and applicant discloses BUNA CB 10 has a Mooney viscosity of  $47 \pm 5$  (spec table 3). Regarding claims 16 and 17, Hiraoka discloses the method of making a golf ball including selecting BUNA CB 10 for the core material and molding the core composition (col 2, lines 55-60). The performance features of the core are obvious since the material is identical to applicants. Regarding claim 18, the features of the polybutadiene are obvious since the material is identical to applicants. Regarding claim 19, Hiraoka discloses a Mooney viscosity range from 45 to 90 (col 1, line 59) and applicant discloses BUNA CB 10 has a Mooney viscosity of  $47 \pm 5$  (spec table 3). Although Hiraoka does not disclose the COR, the feature is considered obvious since the first polybutadiene disclosed by applicant is identical to the polybutadiene disclosed by Hiraoka.

(See Office Action of September 20, 2004 pp. 2-4.)

A. The Examiner's Cited Reference

RE 35,293 to Hiraoka et al. discloses a golf ball comprising a core wherein the core comprises a mixture of (A) a solid polybutadiene rubber and (B) a liquid polybutadiene or a liquid isoprene-butadiene rubber or both.

Hiraoka et al. discloses that the improvement is the addition of (B) to improve processability. Hiraoka et al. does not disclose the COR of the golf ball core.

**B. The Subject Matter of Claims 2 to 7, 9 to 14 and 16 to 19 is Patently Distinguishable Over the Cited Art**

Claims 2 to 7, 9 to 14 and 16 to 19 are not unpatentable over Hiraoka et al.

Appellant respectfully disagrees with the Examiner and submits that the Examiner has not made out a *prima facie* case of obviousness. The Examiner stated that "Hiraoka et al. discloses a core made from BUNA CB 10 (poly A) and an additional rubber, wherein the BUNA CB 10 is present in the amount of 98 parts (col. 2). Therefore, it is clear the COR would obviously be the same, 0.786." (Page 5 of Office Action of March 9, 2004) Appellant respectfully submits that the COR would not "obviously be the same" as Appellant's because Hiraoka is not using the same materials. Hiraoka does not show any COR values at all, nor does Hiraoka make any actual examples using BUNA CB 10 as the polybutadiene (A). Appellant respectfully submits that adding even a small amount of liquid polybutadiene rubber or liquid isoprene-butadiene rubber would improve the processability of the rubber, as stated by Hiraoka, but it would also lower the COR of the core. Hiraoka has chosen one of a number of polybutadiene rubbers to blend with a liquid rubber, but Hiraoka fails to recognize that using a polybutadiene having a particular solution viscosity value will improve the COR value of the core. As previously stated, Hiraoka does not even measure, or at least disclose, the COR of the core of his golf balls.

Appellant respectfully submits that the burden is on the Examiner to provide a basis in fact and/or technical reason to reasonably support the determination that the allegedly inherent characteristics necessarily flow from the teachings of the prior art. Inherency must be a necessary result and not merely a possible result. Appellant respectfully submits that the

Examiner has failed to support the inherency determination with any facts or technical reasoning, but instead, is attempting to shift the burden to Appellant to prove that it would not be inherent.

Claims 3 to 7, 9, 11 to 14 and 16 to 19 depend, or ultimately depend, from claims 2 and 10, which Appellant submits are not obvious over Hiraoka et al. for the reasons just discussed, therefore, claims 3 to 7, 9, 11 to 14 and 16 to 19 are also not obvious over Hiraoka et al.

The Examiner's cited references neither teach nor suggest the golf ball of claims 2 to 7, 9 to 14 and 16 to 19.

**2. The Examiner's rejection of claims 21 to 23 as unpatentable under 35 U.S.C. § 103(a) over Hiraoka et al. (RE 35,293) in view of Cadorniga et al. (5,508,350) is erroneous and must be reversed.**

The Examiner has rejected claims 21 to 23 as being unpatentable under 35 U.S.C. § 103(a) over Hiraoka et al. (RE 35,293) in view of Cadorniga et al. (5,508,350). The basis for the Examiner's rejection is as follows:

Claims 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hiraoka et al. (Re 35,293) in view of Cadorniga et al. (5,508,350). Hiraoka discloses a golf ball comprising a core made from a polybutadiene (A) and a second polybutadiene (B)(col 2, lines 1-5). Hiraoka further discloses up to 25% of the second polybutadiene but does not disclose the range claimed by applicant. Cadorniga teaches 50% of two different polybutadienes in a golf ball core. One of ordinary skill in the art would have increased the quantity of the second polybutadiene to achieve the desired properties of the core.

(See Office Action of September 20, 2004 p. 4.)

**A. The Examiner's Cited References**

RE 35,293 to Hiraoka et al. discloses a golf ball comprising a core wherein the core comprises a mixture of (A) a solid polybutadiene rubber and (B) a liquid polybutadiene or a liquid isoprene-butadiene rubber or both. Hiraoka et al. discloses that the improvement is the addition of (B) to improve processability. Hiraoka et al. does not disclose the COR of the golf ball core.

U.S. Patent No. 5,508,350 to Cadorniga et al. only discloses a golf ball comprising a blend of 50% each of two different polybutadienes.

**B. The Subject Matter of Claims 21 to 23 is Patentably Distinguishable Over the Cited Art**

Claims 21 to 23 are not obvious over Hiraoka et al. in view of Cadorniga et al.

Appellant respectfully disagrees with the Examiner and submits that the Examiner has not made out a *prima facie* case of obviousness. As discussed above, Appellant respectfully submits that Hiraoka et al. does not disclose Appellant's invention. The addition of Cadorniga et al. does not cure the deficiency of Hiraoka et al.; that is, Cadorniga et al. also does not disclose a golf ball core with Appellant's claimed properties. Additionally, Cadorniga et al. only discloses a blend of 50% each of two different polybutadienes. Appellant respectfully submits that Cadorniga et al. does not provide any motivation or suggestion to increase the amount of the second polybutadiene to Appellant's claimed range because Cadorniga et al. only teaches a 50/50 blend. Additionally, Appellant respectfully submits that there is no motivation or suggestion to combine Cadorniga et al. with Hiraoka et al. because Cadorniga teaches away from Hiraoka et al. Hiraoka et al. teaches that more than 25% of a second liquid polybutadiene or isoprene-butadiene makes processability poor, while Cadorniga teaches a 50/50 blend as the preferred embodiment for a blend of two high cis polybutadiene rubbers. Finally, Appellant respectfully submits that the combination also does not disclose Appellant's invention because Cadorniga et al. does not disclose a golf ball having a core formed of a polybutadiene having a particular solution viscosity and a particular COR, in combination with a second polybutadiene comprising from 30% to 50% by weight.

Claims 21 and 22 depend, or ultimately depend, from claims 2 and 10, which Appellant submits are not obvious over Hiraoka et al. in view of

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Cadorniga et al. for the reasons discussed above, therefore, claims 21 and 22 are also not obvious over Hiraoka et al. in view of Cadorniga et al.

The Examiner's cited references neither teach nor suggest the golf ball of claims 21 to 23.

In view of the above, Appellant respectfully submits that claims 2 to 7, 9 to 14, 16 to 19 and 21 to 23 are not obvious over the cited references.

Accordingly, it is respectfully requested that the Examiner's rejection of claims 2 to 7, 9 to 14, 16 to 19 and 21 to 23 be reversed.

Respectfully submitted,

R. DENNIS NESBITT

Customer No. 24492  
Phone: (413) 322-2937

Date: November 15, 2004

By: Michelle Bugbee  
Michelle Bugbee, Reg. No. 42,370  
The Top-Flite Golf Company  
A wholly-owned subsidiary of Callaway Golf Company  
Attorney for Appellant  
425 Meadow Street  
P.O. Box 901  
Chicopee, MA 01021-0901

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**VIII. CLAIMS APPENDIX (37 C.F.R. § 41.37(c)(1)(viii))**

The claims standing on appeal are:

2. A golf ball comprising:

a solid core formed from a core composition including a polybutadiene rubber exhibiting a solution viscosity of from about 90 mPa•s to about 130 mPa•s, wherein said core exhibits a coefficient of restitution of at least about 0.780.

3. The golf ball of claim 2, wherein said solution viscosity value of said polybutadiene rubber is related to said coefficient of restitution value of said core so that the higher the value of said solution viscosity, the higher the value of said coefficient of restitution.

4. The golf ball of claim 3, wherein said polybutadiene rubber exhibits a Mooney viscosity of from about 38 to about 52.

5. The golf ball of claim 2, wherein said golf ball also comprises a cover covering the core, wherein the cover has one or more layers.

6. The golf ball of claim 2, wherein said polybutadiene rubber has a cis-1,4 content of at least about 96%.

7. The golf ball of claim 2, wherein said core further comprises a second polybutadiene rubber.

9. The golf ball of claim 2, wherein said core exhibits a coefficient of restitution of at least about 0.785.

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## 10. A golf ball comprising:

a solid, molded core formed from a core composition including a polybutadiene rubber exhibiting a solution viscosity of from about 90 mPa•s to about 130 mPa•s, said core exhibiting a coefficient of restitution of at least about 0.783.

11. The golf ball of claim 10, wherein said polybutadiene rubber has a cis-1,4 content of at least about 96%.

12. The golf ball of claim 10, wherein said solution viscosity value of said polybutadiene rubber is related to said coefficient of restitution value of said core so that the higher the value of said solution viscosity, the higher the value of said coefficient or restitution.

13. The golf ball of claim 10, wherein said core further comprises a second polybutadiene rubber.

14. The golf ball of claim 10, wherein said polybutadiene rubber exhibits a Mooney viscosity of from about 38 to about 52.

16. A method for making a molded core exhibiting a coefficient of restitution value of at least 0.780, the method comprising:

selecting a polybutadiene rubber exhibiting a particular solution viscosity value; and forming a core from said polybutadiene rubber, said core exhibiting a coefficient of restitution value related to the value of said solution viscosity of said polybutadiene rubber.

17. A core formed from the method of claim 16.

18. The method of claim 16, wherein the value of said coefficient of restitution of said core is higher as the value of said solution viscosity exhibited by said polybutadiene rubber is increased.

19. The method of claim 16, wherein said polybutadiene rubber exhibits a Mooney viscosity of from about 38 to about 52.

21. The golf ball of claim 7 wherein the weight percent of said second polybutadiene rubber in said core is from about 30% to about 50%.

22. The golf ball of claim 13, wherein the weight percent of said second polybutadiene rubber in said core composition is from about 30% to about 50%.

23. A golf ball comprising:

a core formed from a composition including (i) from about 70% to about 50% of a first polybutadiene rubber exhibiting a solution viscosity of at least about 90 mPa•s, and (ii) from about 30% to about 50% of a second polybutadiene rubber.

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